

Aa 177 pro angl Co je čas? | Díl 1102 | Blíže k pravdě

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What is Time? | Episode 1102 | Closer To Truth

Co je čas? | Díl 1102 | Blíže k pravdě, **Bertrand Russell** (filozof) s **Robertem Lawrence Kuhnem** (publicista) rlkuhn@earthlink.net



Robert Lawrence Kuhn is a public intellectual, international corporate strategist and investment banker. He has a doctorate in neuroscience and is the author and editor of over 25 books. [Wikipedia](#)

Born: 1944 (age 77 years), [New York, New York, United States](#)

Spouse: [Dora Serviarian Kuhn](#)

Award: [Friendship Medal](#)

Children: [Daniella Kuhn](#), [Adam Kuhn](#), [Aaron Kuhn](#)

Education: [University of California, Los Angeles](#), [MORE](#)

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at Cambridge, an expert at following Time's arrow
contact@philanthropy.cam.ac.uk ; professorships@admin.cam.ac

My opinions (in red) have been translated by google translator

(01)- When i think about time, i'm elated and i'm depressed. Elated in that to try to appreciate time is to Touch the fabric of reality. Depressed in that to try to understand time, is to wander In raw speculation. What is it about time that provokes such bipolar emotions? **Is the reality of time somehow different from our Common perceptions?** * Yes. I have been using a "simple" statement for several years to irritate clever brains: "Time is not running out for us, but we are running for it", meaning that we material objects (humans along with the Earth) are running through the time dimension of that 3 + 3D space-time environment and with our shift we cut intervals into the time dimension, which we then perceive as the flow-flow of time. What is time? I'm **Robert Lawrence Kuhn**, and closer to truth is my journey To find out. Pursuing time, i attend a conference **on the nature of time** * the nature of time is a philosophical category rather than a physical one. Time is a phenomenon of reality, a physical quantity. Sponsored by the foundational questions institute - fqxi Physicists and cosmologists who push frontiers of knowlege, And venture beyond. The conference begins aboard ship, Cruising from norway to denmark. Sailing is not smooth and i become dizzy, But whether from the toss of the waves or the talk about time, I cannot tell. I meet the bertrand-russell professor of philosophy At caimbridge, an expert at following time's arrow - Hugh price. Hugh, the most fundamental thing seems to be time, **and yet**, Many of my physicist friends **tell me time is not fundamental.** * No. I believe that the phenomenon of "time" together with the phenomenon of "length" (together 3 + 3 dimensional continuum) is the basic reality of the Universe - even "more basic" than the "laws of reality". The laws of physics "arise" only after the "nature-structure" of the 3 + 3 dimensional space-time changes. Changes in the curvatures of dimensions give rise to all laws of physics, and the laws are arranged in a developed sequence It seems to me impossible for something temporal to emerge Out of something atemporal.* What is "temporality"? As time passes, (expands its curvature), in other words: as we travel = we move through time, we (not only we) go through all the changes in the Universe. And changes happen precisely because of changes in the curvatures of dimensions. 3 + 3D The first thing we need to do is **to think a little bit about** What we mean by time, and it's helpful to make the distinction Between three properties of time, which seem To be good reasons for thinking are really not part of the Physical world, but coming from us, * (from our people from our "feelings" to time) (We should distinguish between the "properties of time" from a physical point of view, such as curvature ..., and the properties of time from the point of view of human "feelings" caused by time) and what i have in mind There is the idea that there's a special **present moment**; * I call it, I name the "stop-state" to the temporal dimension, which expands "alone", and we ourselves still move on to it. The idea that there's some kind **of flow** or passage of time, And the idea that time has a fundamental **direction.** * Sure. The human perception of time is "its flow", we do not perceive the "what-how" flow through the eyes or the other four senses. Realize that we do not perceive (in ordinary earthly life) that, as a material-Earth object, we move in the Universe "along the length" (in three longitudinal dimensions), just as we move in three temporal dimensions. Nevertheless, we humans understand that shifting = flowing "along the longitudinal dimension" somehow better, more clearly. But we no longer perceive the shift "over time" so brilliantly, we understand it less. Scrolling along the longitudinal dimension in the Universe means that we cut intervals, while we cut intervals for time. In other words, the universe "expands" its longitudinal and temporal dimensions on which we have "installed" unit intervals. That changes... slightly, but „but“ what is it slightly ”?? If we lived on the Planck scales, where there is "foam of dimensions = high curvature", we would perceive the "unpacking" of dimensions with respect to the chosen interval = unit, very clearly. What physics gives us is a picture of, so-called, "block universe", where time is just part of a 4-dimensional Space-time.* Four-dimensional = four-dimensional The universe is a misconception of reality. (!) **Reality is 3 + 3 dimensional space-time.** 4-dimensionality is an imperfection, a mathematician's invention for mastics, for

4-evening, 4-momentum, etc. My view is to reconsider the understanding of time, that is, that he also has three dimensions. http://www.hypothesis-of-universe.com/docs/c/c_005.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_012.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_035.jpg ; When some people say that time is not fundamental, they're Talking about the first half. So, they're just expressing the view that things like the Specialness of the present and the flow of time Turn out not to be part of physics. I think they're probably right about that, and so, if that's What you mean by time, that's one way of giving sense to The claim that time is not fundamental.* Nonsense. Unfortunately, physicists still think that "more important = basic" for understanding the World is matter, or the laws by which matter is governed. Not because it's physicists to this day !! does not know that matter is also built-realized from the dimensions of two quantities (two phenomena) of time-space, ie from the dimensions of "Time" (t₁, t₂, t₃.. **timeon**) and the dimensions of "Length" (x, y, z, .. **spaceon**). (For didactic accuracy, it would be more appropriate in physics to write a "quantity" with a capital letter and a "dimension" with a lowercase letter - "length" is a dimension (there are three - **spaceon**) and "length" with a capital "D" is a quantity; "time" is a dimension (there are three dimensions t₁, t₂, t₃ - **timeon**) and "Time" is a quantity) Now, there's another thing that can be meant by the claim that It's not fundamental, which takes for granted the block Universe picture of space-time, but looks at theories According to which, space-time itself is not fundamental.* → ☹ ☹ ☹ ☹ **It's emerging out of some lower structure.*** These "feelings" of human-physics stem precisely from ignorance = misunderstanding of the correct true nature of matter, that it is recruited-produced-modeled from 3 + 3 dimensions of space-time quantities in the style: curvature = packaging of dimensions into some topological cocoons. It is the essence of the Universe that matter is a secondary product. Then physicists would better understand the 3 dimensions of Time and 3 dimensions of Length So, you would see no fundamental problem with time not being Fundamental, and with something that gives the feeling of Flow of time emerging from something else which had no Time component at all; no sense of time.* it is the misunderstanding of the true essence that "time does not run for us, but we run for it" ..., we move 3 + 3 through time-space, "after time" and cut intervals (of time) I certainly see no problem with the idea that aspects of Ordinary time, like flow and the specialness of the present, Are somehow subjective.* From their very birth, people perceive reality subjectively and distorted, philosophically, and poetically, etc., until UNTIL THEY KNOW THE TRUE ESSENCE. Similarly, they perceive and understand time philosophically in this way Seems to me, that not only don't i see any problem with that, I think the arguments in favor of it are very strong.* ?? what arguments? why are the arguments strong? Well, wouldn't that affect things like causation? We always think of cause and effect as something that has to Be a raid in time.* Causality (cause and effect) is only an understanding of the direction = arrows of the flow of time ..., not of time itself as an essential artifact of the existence of the universe and the existence of matter, for the "production" of which time is essential and necessary.

Cause and effect can be investigated-debated only in a situation where "time is running out". And that didn't happen until after the Big Bang. Time did not run before the Big Bang. (!) Nevertheless, even "there before the Bang" there must be a "cause", namely: why the Big Bang took place. (?) The Big Bang is a "change of state" of the previous flat infinite Euclidean spacetime 3 + 3D without matter, without fields, without passage of time, without expansion..., change to the state "after the Bang", when the opposite extreme occurred: spacetime is a leap maximally crooked (plasma = boiling vacuum of those dimensions, only those dimensions). And only here in this World after the Bang 3 + 3D begins to expand, in one direction in the familiar arrow of time (in the anti-world it expands in the opposite direction, the opposite arrow), so the expansion of time dimensions begins, we perceive it as a

flow-time and we can monitor "cause and effect", I think you're absolutely right, but the implication of it is that our notions of causation are, themselves, **To some extent, subjective.** * **Subjective less; objective more ..** So, our sense that causation runs from the past to the future is, at least in some degree, a result of our own temporal Perspectives, as agents ; * **O.K. "In time" changes occur in all states of change 'matter versus space-time'.** as creatures, manipulating things in the world to achieve ends, which are more satisfactory than other outcomes. I think the right approach, as a philosopher, is to look at the kind of picture that physics has given us about time - That's **the 4-dimensional, block universe** kind of picture, * **What is (would be) the unacceptable offer of the physics of the image of a 6-dimensional universe ???? And then ask, how do we fit our ordinary notions of Causation into that? * The image of a 6-dimensional space-time would not harm physics or "human perception" at all. That is why the passage of time (the pace of passage of time) into the three dimensions of time is indistinguishable, its sensitivity is 8 orders of magnitude worse - less easy. See light speed $10^8/10^0$. Even the uneducated layman has heard about the dilation of time, that time flows more slowly on the rocket, meaning the same way in all three directions. Physicists have not yet thought about whether the dilatation manifests itself only in the x-axis "x" of motion or in the perpendicular axes "y" and "z". Why should the time dilation be the same in all three axes? And if so, then it would mean that the rocket commander (at $v \rightarrow c$) does not observe any dilation on himself. There is no dilation on the rocket..., that dilation only we-observer ATTENTION (we observe with scanning devices or mathematically according to STR) in the system Earth-selected, the system fits to rest. We-Earth are a rocket for observers from the quasar, what He observes us is that we are moving away from it at a speed of $v \rightarrow c$ in only one direction. And yet we on Earth do not observe any dilation in one direction or in three directions //// In particular, how do we fit in the so-called arrow of Causation, the difference between cause and effect, And its alignment with the past-future arrow? * **After the Big Bang, "two worlds" had to emerge, the World and the Anisworld. In each of them, the passage of time has a different, opposite arrow. We live in the "World" quadrant and antiparticles live in the "anti-world" quadrant. The contact of both is at the "gateway" in the microworld, on the Planck scales when he can "jump" to our quadrant - our world - and then return to the dynamics of change - by the interaction of the antiparticle for a small time interval. That "our" arrow of time returns the antiparticle. And i think the best answer to those questions is to accept That there's a subjective ingredient O.K. in our notion of Causation too, so in a sense, we're projecting onto the world The temporal perspective we have as agents. I cannot overstate the significance of Hugh's radical Claim: because we are within time, we are misled by our Human perspective, which gives false importance to the present Moment,* that importance is not false false feeling to the flow or passage of time, And false sense to a necessary direction of time. * That feeling is not fake .. What about our ordinary notions of causation? * It is a reality that arises by "unpacking" the curvature of the temporal dimension in global 3 + 3D space-time. It is also a question of whether time flows at the same pace everywhere in every location of the universe, ie in dense black curvature and less curvature in every cluster of galaxies, and at an even slower pace in "empty" space and at the lowest "on photon" pace. Time "stands" on the photon because the photon "runs alone along a time dimension that is already 100% expanded."** Hugh was right to ask. Subjective, he says, to our sense of time, which is consistent, but convincing? Perhaps i should try to be persuaded that my sense of Time is an illusion. * **How ?** Cause as subjective does not win my confidence. Perhaps i should try to be convinced. The conference continues in Copenhagen, the city that gave its name to a probabilistic interpretation of Quantum physics. I pursue this time-as-illusion vision; a timeless physics With one of its chief proponents: author of **"the end of time", Julian Barber.** Time, as we experience, is definitely related to Changes that we experience. * **O.K. exactly. Changes take place in changes in the curvatures of dimensions,****

and this then "manifests" in all the material, in all the interactions of the universe, which do not cease.

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(02)- The way i like to put it is, we see, as it were, a succession of Snapshots of seemingly passing continuously, One into each other.* **The image of reality is a stop-state of reality ..., and that reality is a stop-state of all curvatures of dimensions not only in the place but in the whole Universe.** If one just took photographs, as i say, and there's nothing Changed in the photograph, you can't say whether Time has passed. Now, as people studied things more, bit by bit, **Notions of time -** people started **to measure time,** And to actually successfully make clocks and things like That, **and the really major change came** with **Isaac Newton,** Who formulated laws of motion, which still work extraordinarily Well to this day, * **Measuring time intervals is not yet about "all about time";** therefore, people have not yet "discovered" that time is not running out for us, but we are running to him, we are running "after time". **And thus we cut the intervals. The watch is just a mechanism for measuring "precise intervals against the selected standard.** and that explains, actually, why we're Able to keep appointments. Because it does ultimately explain why watchmakers can Make watches which march in step. But, what is really happening - they're not marching in step With time, they're marching in step with each other. * **Clocks (iron wheels) have nothing to do with "their own act of passage of time" except that they measure successive intervals on the time dimension.** The tempo of the passage of time changes (the tempo of the cut intervals by the watch does not change) not only in the gravitational potential levels, but with each accelerated movement. **($a = x / t_1 \cdot t_2$; not ($a = x / t^2$))** That's the key thing, and this was the fantastic discovery That Newton made. Utterly simple laws he was able to formulate, which Capture that perfectly.* **Laws of "interactions" of matter with time-space. In his discovery, Newton still lacks "proving the essence of time."** And to prove in equations of equivalence $F(a) = F(g)$ that the gravitational constant is only a number and "dimensions" should not be assigned to it... because it then distorts the essence, it would be a scam on reality. He confused the issue, i believe, by saying that in Addition to these correlations between the watches, There is this **mysterious invisible time, but this is also Very deep rooted in psychology.** Okay, okay take it forward from newton - then what? There were two really great theories in the 20th century. **The first was einsteins general theory of relativity, where he Made time dependent on what matter is doing.** * This is not exactly the case. The pace of the passage of time * **This is not exactly the case. The pace of the passage of time * is not governed by what matter does, it both changes-changes ' mutually ' - complementary.** If matter does something different, Time flows differently.* **The opposite is true: When time does something different, matter changes its weight and other "parameters."** And then, ten years later about, quantum mechanics Was discovered. Now, in quantum mechanics, that has a good **old-fashioned (no-curved !)** Newtonian absolute time, and it's very mysterious because It's quite external to everything else which is going On in quantum mechanics, so this has always disturbed people. **John wheeler** is the man who coined the expression "black hole", but he was desperately keen to understand How these two theories would **be put together,** * **They cannot be joined "together"** because one is linear and the other is nonlinear. I tried to do this by suggesting that the gravitational constant has a "really dimension" and it is different from what was given to it by the masters of physics, that is, that it is not a number-constant, but a real physical quantity. Unfortunately, I couldn't prove it. So, he kept on pushing bryce dewitt to find the equation Which would describe it, and when **Dewitt** found this equation, **He was very disconcerted to learn that time had disappeared From it altogether,** and on the face of it, it seemed that there Was no time at all; it was just a completely static universe. It was as if there were lots of possible configurations of The universe, which don't change.*!* In fact, all possible

configurations that universe Could have are, so to speak, there, and attached to them is A number which gives a probability. Now, this is all very mysterious, Because the way i try and explain it Is if there was a huge bag with all these Snapshots in there, but some of them are much more common than Other ones, and if you put your hand in and if you put your hand in it, you will pull one * **frame = stop-state more likely than the other stop-states.** –

I don't know Dewitt, but his images seem to say that we-mass objects do not "run" "over time", but stack a column of images (of various stop-configurations) on top of each other. Time does not run, but there is a "stack of frames" where each frame has a different configuration of time and mass. Well, that's a "like ☺" solution.

Because I never noticed Wheeler's "orders" at Dewitt by statistical coincidence, I have now corrected and searched and found this on the net : <https://procproto.cz/objevy-2/cas-neexistuje-vymysleli-jsme-si-ho-tvrdi-fyzikove/> and I read it. The description of one passage will be :

*Physicists have tried to connect these two incompatible regions through a large unified equation because they assumed that, whatever the scale, everything in the universe must be interconnected: from particles to galaxies. This equation was developed more than 40 years ago by two brilliant physicists, **John Wheeler** and **Bryce DeWitt**. However, their discovery has caused controversy, because **if the equation is correct, then a concept like "time" does not exist at the most basic level of matter.** O.K., from this point of view, there is at the "basic level" the dimension of time, not the "very flow" of that dimension. Time is not running out for us, but we are running after it. On the Planck scale where quantum mechanics prevails, the "curvatures of dimensions" change, especially during the interactions of matter, because that matter is constructed from the "curvature dimensions" of the two quantities "Length" and "Time".*

*What we subjectively perceive as "time", the flow-flow of time, is, according to physicists, only **a measurable effect of global changes** in the curvature of dimensions in the 3 + 3D world around us. And the more we immerse ourselves in the world of atoms, protons and photons, the less relevant the concept of time flow is. because we do not observe the "flow-flow" of time intervals there, but we observe changes in the curvatures of dimensions that are **DOMINANT**. Particle interactions are changes-transformations and even shifts of "dimension packs" in those interactions... and the equations are linear. Whereas gravity in the macro world is nonlinear, it is a "crooked parabola" $g = x / t_1.t_2$. Scientists from the National Institute of Standards and Technology (NIST) also agree with this view. NIST has the most accurate atomic clock in the world, the accuracy of the intervals is useless; it is necessary to change thinking and see the curvatures of dimensions, ie the nature of matter. which govern not only global computer networks, but also satellite navigation or GPS. Of course, even in the macro world, the curvature of dimensions is noticeable even in gravity. The GPS satellite does not run slower, but it is necessary to perceive the "rotation" of the systems, the base-observer system at sea and the "own" system of the satellite, which already has its 3 + 3D system rotated at another gravitational level, and thus " we take "time intervals" down to the sea other than the standard interval, the difference is the "dilation". NIST physicists claim that their ultra-precise clock doesn't actually measure time at all: it is only determined by the markings on the clock.*

*In fact, we do not live under the burden of time, but in a world of variable matter, the variability of which we have become accustomed to using a non-existent physical quantity. However, if we did not invent it ourselves, there would certainly be chaos around us. **I will postpone my controversy on this topic.***

Then, in a flash, an idea came to me: **it must be in the Structure** of the configurations that get a high probability. Now, we know we live in a very highly structured universe, * O.K., but you don't know yet that matter is also built from mutually "packed" packages of compacted dimensions of two quantities "Length" and "Time"... and Then i thought of this wonderful thing that happened in geology - That's what i call a time capsule; that record in rocks. Now, there's another marvelous time capsule here,* In geology, ie in the earth, the rigid "stop-states" of the configuration of matter from the past are certainly. This does not change the idea of building matter from space-time itself by "packing 3 + 3 dimensions" in my head. I've got all my memories there, so first of all, my knowledge of The past relies on two things. First of all, if i move my hand like that, i see my hand both Here and here at the same time, and the motion, and that Suggests to me that motion is real, and then, the only other Evidence i have is the coherence of my memories and seeing you Nod when i say something, and you're obviously recalling what I said before. This is all in standard terms, but that must mean that there's A fantastic time capsule * eg DNA... ?? This could be the "written equation" of the genesis of human-matter development since the Bang itself. We sequenced only the last piece of DNA and not yet in the past. DNA could be the "equation of EVERYTHING" sitting inside my head, and in fact, the Whole of science is telling the same story. That there was a big bang which started in a very special way -- It devolved in accordance with laws and created all these Records around us.* After the Big Bang, not all the laws as we know them today. There were a few. And it was not until the development of material structures from space-time that a sequence of new laws was recruited; the genesis of matter into the sequence of today's complexity develops "in parallel" with the sequence of the origin of today's laws So, that, i think, is why we believe in time and history. But is this good physics, or group fad? Does julian's time capsule unmask a mental module that Constructs a feeling of time? **I'm still a skeptic.** Could what seems so obvious be so wrong? * No, it is not, just an unfinished knowledge of the Truth about matter. (it is built from space-time by "wrapping dimensions into elements") My physicist friends tell me to consider time (timeon) as I consider space.(spaceon) * That is the right way. They are two equal equals, and even something like "two sides of the same coin." Since space-time, according to einstein, Is, in deep reality, unified. I am game to get what still seems - well, a bit absurd, so i **Go after the dimensionality of time. !!!** Still at the time conference, i ask an expert in the Philosophical foundations of physics: colombia professor, **David Albert.** David, **in trying to understand the nature of time,** i'm told That we should consider time in a spatial sense (timeon has three time dimensions); the so-called Spatialization of time. * Yes, that is the right direction. Time * (timeon) * is something like "anti-space" and space is something like "anti-time". They are two faces of One Essence, one Bigquantity..., ie before the Bang "Solo-quantity" (let's call it God), which in the concept of alternating symmetries with asymmetries "tore" into two symmetrical artifacts "Length" and "Time" and... and these, in the spirit of alternating symmetries with asymmetries, in turn "change" into three artifacts: "length" + "time" + mass and... and the genesis of the rotation continues (before atoms, molecules, compounds, up to.... to DNA.) So, what does it mean? That is, the way time appears in physics is as another component In the address of an event.

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(03)- **What physics aspires** to tell you is how events are distributed Over different values of these spatial and temporal axes. What is missing from this metaphysical framework from Which physics starts out are these notions of flow, these Notions of passage, these notions of becoming so on And so forth. * **There is no idea that time can be three-dimensional (time) like space** Which, to normal people, is time. Which, to normal people, certainly is time. **The**

trouble is that if you try to formalize these notions so That they're fit to do jobs in a discourse that you want to be Extremely clear and extremely explicit and extremely logical, **It's hard to know how to do that.** * Hard until you understand the three dimensions of time. Only by pure coincidence it seems to us that the tempo of the passage of time is the same (absolutely the same) in all directions, ie in the three longitudinal axes. No it is not. Time intervals are perceived by 8 orders of magnitude worse than length intervals; $c = 10^8 / 10^0$ People talk about **time flowing**; a common question that gets Asked of such people is, **how fast is it flowing?** * I experienced my incident, when a group of would-be scientists suffocated me that it was a gigantic phantasmagoria to talk about "**different rates of passage of time,**" that I was the only one who was explaining something so stupid. So I don't know where the author **Lawrence Kuhn** got it, that this "**different pace**" is a **common** question...; **definitely not a common question in the Czech Basin**, on the contrary..Sample here http://www.hypothesis-of-universe.com/docs/j/j_201.pdf pages 22, 23, 28,29, 30, 31 said **Hnědkovský, lubob, hacker_, Krinda, edemski** And, you know, **maybe the normal answer is, i don't know**, one Second per second, and the next question is, gee - and what Would it be like if it were flowing 2 seconds per second Instead of 1 second per second. * **Not only dilation is a "change in the pace of time."** It is far from being researched whether time flows at the same rate everywhere in the universe as on Earth. And even whether in different historical times since big-bang the pace of time has not changed everywhere or in localities .. It's not even clear what that means, okay? The claim that time is flowing 1 second per second doesn't have The feel of a claim about how the world is, it has the feel of Something that's true by definition.* **How do you want to define the "tempo passage of time"??** One definition has already been given by prof. Kulhánek: The pace of time is the highest on Earth, **and everywhere else** the pace of time is smaller-slower. In this way he proved that "on the horizon of observability of the universe" the pace is the slowest, ie time "stands" on the horizon. Which is a bad statement of Kulhánek, who wanted to explain STR - time dilation. STR can be better explained as the rotation of the Observer and Test Body systems It's like saying a bachelor is an unmarried male, or something Like that, and physics has always been about, since its Beginnings, was to give an account of the tracks that Material bodies make through this 4-dimensional arena, okay? Through this spatio-temporal arena. There are all sorts of senses in which Einsteinian relativity Made that spatialization more vivid, more explicitly Geometrical, so on and so forth, **but since the beginnings of the Scientific revolution, since Galileo, since Newton, we've Been dealing with time as a parameter,*** **That's not good, Time is not a parameter, but it's the same phenomenon as "Length". It's a space artifact, a basic fact** okay, **and we haven't Been able to make fundamental metaphysical sense of talk of Time's flow, of time's passage. This is talk that physics needs to account** for in the way that Physics accounts for the fact that, say, if you put a pencil In a glass of water, the pencil appears to bent, okay, Even though it isn't. Science, whenever it encounters something puzzling, always Has 2 options, okay? It has the option of explaining it, and it has the option of Explaining it away, okay? It's the second strategy of explaining it away that we apply To the bent appearance of a pencil in a glass of water, and It's the second strategy of explaining it away that we apply To our sensation, or to our temptation to use words like Passage and flow to describe our experience of time. **I admit that if i stick with my common perception of time, i Make no progress.*** **Yes, this is also true that if you stick to only one-dimensional time, it will be without the progress of knowledge.** Time is time, and it flows as it feels. The only alternative is to dive deeply into time, which requires Einstein's relativity, unifying time with space, **Giving time a spatialization.*** **That is not enough. Necessary to build three dimensional time. Then unify time into 3 + 3D, ie build a "network, subsoil, yarn, raster, space-time in a non-curved Euclidean state, in which they then" float "**, other states of reality are embedded in it, ie matter and physical fields It also requires quantum physics.* **You don't understand "what time is" at**

all. * **On the contrary: quantum physics requires three-dimensional time** The fundamental laws of how the micro-world works.* **Interactions are linear "two-quantity equations" using n-dimensions** . <http://www.hypothesis-of-universe.com/index.php?nav=ea> ; <http://www.hypothesis-of-universe.com/index.php?nav=eb> etc. To check out the latter, i go los angeles to meet an expert in **Quantum reality** and non-local aspects of time - Physicist **Jeff Tollefson**. So in classical physics we know that if you know the state of the universe **at one time**, (in one stop-time) every **other later stop-time** is not independent of that state.. They're all completely slaved, in a sense, ? because the theory is deterministic. It's really just like a big machine; it's just a clockwork.* ?? **what is "just" a clockwork? is the passage of time just a clockwork ?? You're kidding!** That there's no, you know, there's no freedom.* **There is really no freedom of any entity in outer space or in aging; every 3 + 3D state of the site depends on another "shifted" state of this 3 + 3D site.... everything changes in parallel and every change of something means a change of something else, anytime, anywhere.** However, in quantum mechanics, **in principle, we cannot know More..more...more than** ?? what is the basic description, which is given by The wave function, even for a single particle.* ?? **Without a mathematical "function" we can't know anything, I don't agree with that.** The basic description of elementary particles and their interactions is not given only by the "wave function" and... and if, then in that "wave function" the state of "wave packages = a ball of time and length dimensions must be built in. Even if you know everything that can be known about a single Particle, or the universe for that matter, **you cannot predict The future like** we could do in classical physics.* **Sure, but it doesn't control the "wave function."** (?) Or yes? (I don't judge, I'm a bad mathematician). Changes in local and global states are governed not only by mathematics, the laws of physics, but also by a genesis of complexity changes that may not be symmetric globally or locally. So, this allows one to say that the most basic description of a Particle, of a quantum particle, allows you to say that you have 2 boundary conditions -- the past of that particle, And its future. * **They do not change in the basic particle itself - wave packs: quarks, leptons, bosons (they are "frozen clones", forever determined configurations of rotation = curvature of dimensions into a ball), but their "relationships", ie they change-transform - "genesis in space-time variability" .** So, if you're asking what is the **nature** of the properties of the Particle, during the time between its past and its future, It turns out that the past and the future play an equal role on An equal footing.* **What do you mean by "nature"?** - The basic particle of the quark itself does not change, the leptons are bosons (they are "frozen clones", forever determined configurations of rotation = curvature of dimensions into a ball), but their "relationships", therefore, change-transform - "genesis in space-time variability".

Particles are "clones of the frozen state of curved dimensions," and it is their configurational, conglomerate design-exposing the package-element that "gives" them properties; dtto atoms, molecules and compounds...; The Higgs boson is said to add mass to the particles, well, I think mass is also a property of a packed package of time and length dimensions. And so now, when you're asking about the **nature** of time, as you Can kind of see, this is totally different from what happens In classical physics.* **By nature**, you mean the "state - the look of this phenomenon" that you have called "time"? or the flow-flow of intervals cut "from Time", where time itself is the "artifact" ?? You're asking about the **nature of time** on a quantum mechanical Level, * **At the quantum level, ie on Planck scales of interval sizes, time is "like foam", it is strongly curved and above all it is "packed" into a ball - you have time to go both ways, ie the arrow "there" to the right and the arrow "opposite" to the left. Yes. When packing time dimensions in only one direction, right, we make **the World**, it will be ""our ""quadrant of the Universe. In the opposite direction of packaging, it is the antiWorld as a "neighboring" quadrant of the Universe. you have time going in both directions, and in a sense, The way the properties of the quantum world show up, you have To- they sort of kiss in the present, so to**

speak. So, you're claiming that the movement from the past to the Present is equal to the movement from the future to the present? **That's right.** * In the Micro-world, the opposite arrows of time, for packing dimensions "there and back". I do not answer this question for myself. The unfolding of the three time dimensions in the macroworld (ie in the World and the Antiworld) takes place in one direction. But in the microworld, both collapse and unpacking of time dimensions take place... .respectively "collapse only", but in two ways: in the direction of the arrow (particle) and against the direction of the arrow (antiparticle). I just don't know here, I don't find the right logic for the "solution". Our view of the nature of time came out from ancient times - **Parmenides**, in particular, i believe -- which, he said that The way we should think about the universe is that the Universe exists with unique objects which simply change Their state * **by curvatures of length dimensions** and time, ***by time dimensions** but it's the same object from one moment To the next, right? **Each subject changes its state; living organisms differently and inanimate objects also differently.**

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(04)- I mean, we've just sort of, we've accepted this way of Thinking about the universe. However, around the same time, in the ancient greeks, there was A very different way of thinking about the nature of time, which Just didn't catch on, and this is from **heraclides** -- he said, You never bathe twice in the same river. And, one way of interpreting that is that, in fact, each Moment of time, it's not the same universe. It's not the same object as it was a second ago or 100 years Ago, but literally, each moment in time is like a new universe,* **Not a new universe, but a new layout, arrangement of matter and space-time, a new original "stop-state" of the World** Because it's something completely new.* **In the genesis of the 3 + 3D universe, the curvatures of all six dimensions are constantly changing, both in matter and in "bare space-time", which expands variously inhomogeneously, each locality differently. It gets reborn again and again,** * **new configurations-positions of curvatures of dimensions of both quantities are born** and so, one might ask, is it Possible **to reformulate our basic physics** * **reformulate by two-quantity notation** <http://www.hypothesis-of-universe.com/index.php?nav=e> in a way that's Consistent with that idea? ?? * **Elementary particles of matter - wave packages, packages - clubs do not change, their shape of curvature into a "cocoon" does not change, they are "frozen" clones, but the position, constellations, conglomerates of these and field states change.** The only way you could do it -- if you want to have such a Picture -- is to use the time is symmetric approach, where the Future plays as much a role in the present as the past, and so, Using that, literally every moment is like **Recreating the universe.*** ?? **I have a different direction and meaning. The universe is aging at a different pace, even in localities (ie galaxies, cluster clusters and in strong and weak gravitational or other fields)... in "every historical epoch" of the Universe differently. Thus, time flows at different paces in each development stage and in each "selected" locality. ... Time does not have a uniform pace of flow everywhere, even in "stop states". No one has researched it yet. Time must have only one arrow of time for both the World and the Antiworld, which means that the standard interval is "stretching". But inside the elementary particle, the time dimension is packed in the "opposite direction" of the time arrow. And in the antiparticle there is a muscular dimension of time "in the direction of the arrow" of time, and therefore the antiparticle always "lives" a tiny fraction of a second, it unfolds.**

// I don't have this idea perfectly thought out // Again and again and again. Jeff Tollefson **makes the extraordinary claim** that, in the quantum world Of feels and forces, **past and future make equal claims On causing or affecting the present.*** **In the quantum world, there is a state of high curvatures of dimensions "within matter + changes in the interactions of those curvatures", it is a foamy state, so in such a state the "future" may be more unfolded than "present or past" in some "stop-state" of that foam , so "it seems," the future seems to**

"run to the past." But I repeat: this can only happen at a small interval. For past and future to kiss in the present is a nice metaphor, **But what could this mean?** * It just means that on the Planck scales of sizes, space-time is really strongly curved, it's "boiling foam", it's like "mixed past and future into a" boiling package " Would the universe then have some sort of Teleological foundations? **No.** Where what happens later somehow generates what happens before? ***At the macro level, with one-way, one-arrow aging = unfolding the time dimension from the early universe, the future cannot affect the past, unfolding is a "one-way" two-way unfolding is only in the "chaos-foam of dimensions" in the microworld** Where affects can influence causes? **No.** What could be more bizarre? Even if quantum theory suggests uncanny paths of causation, not Every physicist agrees that time is not fundamental.* **Time is a fundamental phenomenon "for the construction of matter and fields, as well as the environment - space-time at the level of yarn-network-raster".** Time has not been studied to this day. Above all, the fact that it is an "artifact" having 3 dimensions, is in a network, in a 3 + 3D fabric with space **and time itself does not run.** Only the subject = object "after that time dimension" is moved. In the Euclidean flat non-curvilinear 3 + 3D network, other "3 + 3D networks" of curved states of different used numbers of dimensions float. (gravitational field - crooked space-time "floats" in the basic grid 3 + 3D). I'm not perfect, and smart physicists have to refine these ideas and turn them into a "true vision." I go to Cambridge to meet **John Pokinghorn**, a quantum physicist Who became an anglican priest. John believes that the universe is truly one of **becoming** ;* the sequence of states (local and global in the flow of aging time) "in the flow of genesis" is in a way "becoming". In each "stop-state" there is a different Universe - a different configuration of curvatures of dimensions vel that The **flow** and **direction and pace** of time are real and relentless, but is This is physics or his theology? * **Why should it be theology ??? (God obeys his own laws which he must not influence)** As a physicist, i think, there's no reason to generalize the Reality of time.* **People consider time to be the "flow of something, something special intangible"...** yes, it is the flow of cut intervals on the "Artifact" to the temporal dimension, and therefore time is a "quantity-phenomenon" and only then is it >> something that runs in our feelings << Some people think **the special relativity**, for example, has put That in doubt; different observers judge simultaneity In different ways. If observer number 1 thinks that events a and b are the same Time, observer number 2 - the b is before a; observer number 3 - A is before b. You say, well, gosh -- time must be there for an illusion.* **Above all, STR is an interpretation = an example of the rotation of the systems (the systems of the basic Observer in the selected system and the system "owns" the object in motion). Dilatation is a delusion. The illusion that he sees = observes the Observer "in his projection" observes the rotated system of the object in motion and therefore "senses" the rotated intervals, which "on the hundredth of his own" of the object are as large as the standard in the "home" system. The missile commander does not observe a change in the pace of time, only in our observatory it "seems" that the missile commander has dilated time on board. The system of the rocket has rotated, the dimensions of time have been rotated on which the standard intervals are "painted" and these are projected in a different size into "our system".** I think that's a mistaken argument. It's a mistaken argument because no observer has knowledge of a Distant event, * **in stop-states** or the simultaneity of different Events,* **in stop-states** until they are unambiguously in that Observer's past. And, therefore, that argument can just entirely focus on the Way observers describe the past -- organize their description of The past -- cannot establish the reality of the awaiting future, **So i don't think the block universe, this total package Deal of space and time together, is correct.** I think we live in a world of unfolding becoming, but i think That **it's perfectly consistent law of science** * **Note: what you are verbally describing is the law of science or the law of the Universe that science recognizes ?? can tell Us about it. If space and time emerged from something more fundamental, what Would that do to the fundamental nature of time?** * Here we are already in

the position of my reflections "on time". Time is a "phenomenon of reality" along with the "phenomenon" of "length". Both have dimensions. The big bang is then a step change from the state of flat dimensions to the extremely curved state of 3 + 3D dimensions, and its initial form is "boiling plasma = foam of curved dimensions" and..., and only here does "time run" begin to "unfold". Our feeling is that "he" is running, but it is subjective because "we" are running "over time" and cutting intervals = the flow of time. (((this is Einstein's concept of subjectivity / relativity: station runs-runs and train stands))) Well, i don't think it would remove the fundamental Nature of time. I mean, after all, matter and energy emerge in the same sort Of thing, we don't think that they're illusions. We're not made of illusions ourselves.* No, we are made of curved - packed dimensions of the quantity "Time" and the quantity "Length", made in the style of "packed" into balls = elementary particles <http://www.hypothesis-of-universe.com/index.php?nav=ea> and these are further conglomerated into positions = states of atoms, molecules, compounds, chemistry, biology and DNA

In trying to understand time, another way to look at this Would be from a theological point of view, * (The third way to look at the World is in terms of HDV) particularly from The concept of god, and if there is a god, how does god Experience time, if at all? * *God does not experience time*, God - perhaps - created time and himself "does not run through the time dimension." Time was there before the Big Bang as a "standing artifact" in a 3 + 3 grid of flat, undisturbed infinite space-time. Time (flow-flow of intervals) "began to run" only after the big bang, (tremor - which is a step change from the previous to the next-subsequent extremely crooked) when the dimensions of time began to "unfold" in the "new Universe". Etc. etc. The classical view was that god saw a whole of creation, All at once. In other words, actually, in scientific terms, god saw a Block universe - the space-time continuum - in that sense, but I don't think that's right.* God is a "monostate", not an equation. It "split" into two artifacts "Time" and "Length" - which are already two sides of the same coin. If there are two, it is "equilibrium = symmetry" These artifacts were further "split" into 3 dimensions for each artifact (time and space), ie 2x three dimensions ((in abstract logic there is an example: parabola = 1 is asymmetry, parabola = parabola, that is symmetry))) The alternation of symmetries with asymmetries continued into the development of a "fan of states". Each state of the artifact "produced" one law. So two sequences were created: a sequence of complexing states 3 + 3D and at the same time a second sequence of laws, rules... to this day I think we live in a world of true becoming -- that is to say That the future is not there already waiting for us, we make It or help to make it as we go along, * Sequence of state changes. Not only changes in the pace 'time' and if that's correct About the nature of the world, i think it's also, obviously, Theologically correct that god knows things truly.* God knows nothing. God is not "thinking." God is a "solo-state" of Nothing or Something, or Existential or Non-Existent. The solo state (asymmetry) begins to change in symmetry, ie $A = A...$, etc. I don't know what it "starts". I don't know why the "solo-state" (artifact) has the "law" next to it, I don't know what used to be That's to say, knows them as they actually are, and that Means, i think, that god will not only know, in our folding Universe, not only know the events of succession, but will Know them according to their natures, which means that god Will know them in their succession. If that's the case, then there must be a genuine engagement of God with time. Of course, god is not enthralled to time; there must be a Timeless, eternal, unchanging aspect of god -- or steadfast Faith was the sort, but i believe that when god brought Into being a universe endowed with time, endowed with Becoming, god, as an act of diving self-limitation, in a Way, chose to know that world according to its nature, And its becomingness. Therefore, i think that god -- even god does not yet know the Future, and that's not an imperfection in god; god knows Everything that can be known, but the future is not yet there To be known. So, integrating the two from a physics

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(05)- point of view and a Theological point of view, what is the nature of time? You could either, from the physics point of view, believe In the block universe, as einstein did, or in a world of Becoming that i've been trying to describe, and that tells us That physics by itself, that maybe constrains how we think About time, does not totally determine how we Think about time.* **Einstein did not catch up with the idea of "space-time = matter". If Einstein realized that "assigning a gravitational constant" a dimension is misleading, that it is a deception of reality, he would already find that matter is made of a dimension of two quantities.** http://www.hypothesis-of-universe.com/docs/c/c_395.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_390.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_370.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_363.jpg ; http://www.hypothesis-of-universe.com/docs/c/c_354.jpg Now, with you and i, they can be theological reasons indeed, Which settle whether we go for the block universe, or whether We go for an unfolding world. **So, time is not what it seems.** Time is not a simple unity without parts; the ever-existing Stage on which events are played. Time has various parts ?? or features, ?? or elements ?? that may Work together and appear seamless, but are not Required to do so. What are these parts of time? Time has flow; movement like a river. Time has direction, always proceeding forward Into the future. Time has order -- one thing after another. Time has duration - a measurable period between events. Time has a privileged present; only now is real. **Time has a dimension, something like space.** * **← HDV**. However: Space has "3 dimensions". even time has 3 dimensions. What is the difference between a "dimension" and a "dimension" for the author of this speech? **The question is whether these parts are more constructs of Human brains than actual realities of the physical world. !! ☺** The challenge is that physics supports a block universe - A 4-dimension structure where time is like space. ***The 6-dimensional space-time will have to be explored by physicists, this question cannot be suppressed or bypassed or seen** Where every event has its own coordinate or address in Space-time, so that future and past are no less real Than the present. The alternative is that the present is, indeed, Super-special, and the deep nature of reality is One of becoming. I cannot decide. But if i ignore time, i am not closer to truth. **I can't decide, but when I ignore time, I'm no closer to the truth.**

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